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ABSTRACT

The ARCS Model of Motivational Design, developed by John M. Keller of Florida State University, is a systematic model for designing motivating instruction. The ARCS Model identifies four essential strategy components for motivating instruction: attention strategies for arousing and sustaining curiosity and interest; relevance strategies that link to learners' needs, interests, and motives; confidence strategies that help students develop a positive expectation for successful achievement; and satisfaction strategies that provide extrinsic and instrinsic reinforcement for effort. Since the ARCS Model was introduced in the early 1980s, several instruments have been developed for assessing the motivational quality of instructional situations. The Instructional Materials Motivation Survey (IMMS) asks students to rate 36 ARCS-related statements in relation to the instructional materials they have just used. Other ARCS-based evaluation instruments include the Motivational Delivery Checklist and the Website Motivational Analysis Checklist. (WebMAC). ARCS provides a useful framework for both the design and improvement of the motivational quality of a range of informational entities--from classroom instruction to Internet resources. (Contains 12 references.) (AEF)

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# Motivation in Instructional Design
## ERIC Digest.

by Ruth V. Small

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# Motivation in Instructional Design

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## Introduction

Developing life-long learners who are intrinsically motivated, display intellectual curiosity, find learning enjoyable, and continue seeking knowledge after their formal instruction has ended has always been a major goal of education. Early motivational research was conducted primarily in the workplace, and centered on ways to motivate industrial workers to work harder, faster, and better.

More recent motivational research focuses on the identification of effective techniques for enhancing instructional design, improving classroom management, and meeting the needs of diverse student populations (Wlodkowski, 1981). Learning-motivation researchers are applying some of the same theories and concepts found to be effective in industry to the development of motivational models that enhance the teaching-learning environment. One such model is the ARCS Model of Motivational Design developed by John M. Keller of Florida State University (Keller, 1983,1987). ARCS is a systematic model for designing motivating instruction. This digest will describe the ARCS Model, and will outline some of the ways in which ARCS components may be applied to instructional design.

## The ARCS Model of Motivational Design

The ARCS Model of Motivational Design is a well-known and widely applied model of instructional design. Simple, yet powerful, the ARCS Model is rooted in a number of motivational theories and concepts, (see Keller, 1983) most notably expectancy-value theory (e.g. Vroom, 1964; Porter and Lawler, 1968).

In expectancy-value theory, "effort" is identified as the major measurable motivational outcome. For "effort" to occur, two necessary prerequisites are specified — (1) the person must value the task and (2) the person must believe he or she can succeed at the task. Therefore, in an instructional situation, the learning task needs to be presented in a way that is engaging and meaningful to the student, and in a way that promotes positive expectations for the successful achievement of learning objectives.

The ARCS Model identifies four essential strategy components for motivating instruction:

- **[A]**ttention strategies for arousing and sustaining curiosity and interest;
- **[R]**elevance strategies that link to learners' needs, interests, and motives;
- **[C]**onfidence strategies that help students develop a positive expectation for successful achievement; and
- **[S]**atisfaction strategies that provide extrinsic and intrinsic reinforcement for effort (Keller, 1983).

Keller (1987) breaks each of the four ARCS components down into three strategy sub-components. The strategy sub-components and instructionally relevant examples are shown below.

### ✎ Attention

- ***Perceptual Arousal:*** provide novelty, surprise, incongruity or uncertainty. Ex. The teacher places a sealed box covered with question marks on a table in front of the class.
- ***Inquiry Arousal:*** stimulate curiosity by posing questions or problems to solve. Ex. The teacher presents a scenario of a problem situation and asks the class to brainstorm possible solutions based on what they have learned in the lesson.
- ***Variability:*** incorporate a range of methods and media to meet students' varying needs. Ex. After displaying and reviewing each step in the process on the overhead projector, the teacher divides the class into teams and assigns each team a set of practice problems.

### ✎ Relevance

- ***Goal Orientation:*** present the objectives and useful purpose of the instruction and specific methods for successful achievement. Ex. The teacher explains the objectives of the lesson.
- ***Motive Matching:*** match objectives to student needs and motives. Ex. The teacher allows the students to present their projects in writing or orally to accommodate different learning needs and styles.
- ***Familiarity:*** present content in ways that are understandable and that are related to the learners' experience and values. Ex. The teacher asks the students to provide examples from their own experiences for the concept presented in class.

### ✎ Confidence

- ***Learning Requirements:*** inform students about learning and performance requirements and assessment criteria. Ex. The teacher provides students with a list of assessment criteria for their research projects and circulates examples of exemplary projects from past years.
- ***Success Opportunities:*** provide challenging and meaningful opportunities for successful learning. Ex. The teacher allows the students to practice extracting and summarizing information from

various sources and then provides feedback before the students begin their research projects.

- ***Personal Responsibility:*** link learning success to students' personal effort and ability. Ex. The teacher provides written feedback on the quality of the students' performance and acknowledges the students' dedication and hard work.

### ✎ Satisfaction

- ***Intrinsic Reinforcement:*** encourage and support intrinsic enjoyment of the learning experience. Ex. The teacher invites former students to provide testimonials on how learning these skills helped them with subsequent homework and class projects.
- ***Extrinsic Rewards:*** provide positive reinforcement and motivational feedback. Ex. The teacher awards certificates to students as they master the complete set of skills.
- ***Equity:*** maintain consistent standards and consequences for success. Ex. After the term project has been completed, the teacher provides evaluative feedback using the criteria described in class.

## Motivation Assessment Instruments

Since the ARCS Model was introduced in the early 1980's, several instruments have been developed for assessing the motivational quality of instructional situations. The Instructional Materials Motivation Survey (IMMS) (Keller, 1987) asks students to rate 36 ARCS-related statements in relation to the *instructional materials* they have just used. Some examples are:

- "These materials are eye-catching." (Attention)
- "It is clear to me how the content of this material is related to things I already know." (Relevance)
- "As I worked on this lesson, I was confident that I could learn the content." (Confidence)
- "Completing the exercises in this lesson gave me a satisfying feeling of accomplishment." (Satisfaction)

Keller and Keller (1989) developed the Motivational Delivery Checklist, a 47-item ARCS-based instrument for evaluating the motivational characteristics of an instructor's *classroom delivery*. Examples of items related to each ARCS component are:

- "Uses questions to pose problems or paradoxes." (Attention)
- "Uses language and terminology appropriate to learners and their context." (Relevance)
- "Provides feedback on performance promptly." (Confidence)
- "Makes statements giving recognition and credit to learners as appropriate." (Satisfaction)

The Website Motivational Analysis Checklist (WebMAC ) (Small,1997) is an instrument used for designing and assessing the motivational quality of World Wide Web sites. WebMAC builds on Keller's work (1987a; 1987b; 1989), Taylor's Value-Added Model (1986), and the research on relevance and information retrieval (e.g. Schamber, 1994). Still in development and testing, WebMAC identifies 60 items that are categorized according to four general characteristics: Engaging, Meaningful, Organized, and Enjoyable. Some examples of items are:

- "Eye-catching title and/or visual on home page." (Engaging)
- "User-controlled type of information accessed." (Meaningful)
- "Logical sequence of information." (Organized)
- "Links to other websites of interest." (Enjoyable)

## Summary

The ARCS Model of Motivational Design is an easy-to-apply, heuristic approach to increasing the motivational appeal of instruction. ARCS provides a useful framework for both the design and improvement of the motivational quality of a range of informational entities—from classroom instruction to Internet resources—and increases the likelihood that these entities will be used and enjoyed.◆

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